

**REMARKS**

Claims 2 and 5 are all the claims pending in the application.

***Preliminary Matters***

It appears that Claim 1, previously intended to be cancelled, was not recognized as being cancelled by the Examiner as evidenced in the Office Action Summary Sheet. Applicants kindly point to the prior Amendment which clearly cancelled Claim 1.

***Claim Rejections Under 35 U.S.C. § 112***

Claims 2 and 5 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention for the reasons given in the Office Action. Upon reconsideration of his brief comment in the Advisory Action, the Examiner notes that independent claim 5 contains the term “comprising” or “comprises” in four places in the first three lines of the claim and believes that at times at least two of them may refer to the same ingredient, and as such are simply believed to create an undue amount of confusion and apparent ambiguity.

Applicants respond as follows.

In our previous remarks in the Amendment filed under 37 C.F.R. § 1.116 and incorporated herein, Applicants argued that the adhesive sheet of the present claimed invention “comprises” a pressure-adhesive layer which itself “comprises” a pressure-sensitive adhesive. Applicants reiterate that this transitional phrase indicates that the adhesive sheet may include other components other than the pressure-adhesive layer and the pressure sensitive adhesive may

contain components other than the polymer and submit that this language is not ambiguous to one of ordinary skill in the art.

However, in order to more clearly claim the invention without narrowing the scope of the claim, Applicants amend claim 5 to now recite "...a pressure-sensitive adhesive layer [comprising] which is made of at least a pressure-sensitive adhesive...". Entry of the amendment is respectfully requested.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

***Claim Rejections under 35 U.S.C. § 103***

Claims 2 and 5 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over EP '470, taken in view of Applicants' admissions in the specification regarding the usage of pressure sensitive adhesive sheets in semiconductor processing operations for the reasons given in the Office Action.

Applicants respond as follows.

Applicants previously traversed the rejection on the basis that, in the present claimed invention, the removable pressure-sensitive adhesive sheet is used for processing a semiconductor wafer. Therefore, the characteristics that are required in such a sheet include an appropriate peel force and the pressure-sensitive adhesive of the sheet not being retained during the subsequent wiring step, as described in the paragraph bridging pages 1 and 2 of the present specification.

In order to achieve the desired characteristics of the removable pressure-sensitive adhesive sheet, the present inventors have determined that the content of low-molecular components having a molecular weight of  $10^5$  or less in the polymer should be 10% by weight or lower. EP '470 does not teach or suggest the present claimed invention, as defined by claim 5.

Furthermore, the combination of EP '470 with Applicants' alleged disclosure in the specification (usage of pressure sensitive adhesive sheets in semiconductor processing operations) is improper.

First of all, Applicants traverse based on the recitation in claim 5 of "a polymer in which the content of low-molecular components having a molecular weight of  $10^5$  or lower is 10% by weight or lower". Applicants' claimed invention measures the molecular weight of the polymer at the *end of the reaction* to determine the content of low-molecular components. On the other hand, EP '470 appears to disclose *pre-reaction* components: "Preferably, the acrylic copolymer has a number average molecular weight ranging from 100,000 to 500,000. In this case, a monomer composition for constituting the acrylic copolymer preferably includes 0.1-10 weight % of hydroxyl- and carboxyl-containing monomers. More preferably, the monomer composition includes 0.01-3 weight % of hydroxyl-containing monomer and 1-10 weight % of carboxyl-containing monomer." (See EP '470, last paragraph bridging pages 6-7; specifically page 7, lines 6-9). EP '470 appears to describe monomer components prior to reaction, and the Examiner may have mistakenly relied upon such weight %'s of pre-reaction components as anticipating Applicants' post-reaction limitation of "a polymer in which the content of low-molecular components having a molecular weight of  $10^5$  or lower is 10% by weight or lower".

Furthermore, Applicants traverse the rejection on the basis that the combination of EP '470 with Applicants' disclosure is not suggested or motivated to achieve the particular limitations in claim 5. Although the prior art referred to in the specification relates to the semiconductor processing art, this disclosure is in a separate field of invention from the prior art disclosing a "removable pressure sensitive adhesive sheet" for use in the medical field, particularly as a medical adhesive applied to human skin such as in EP '470. The performance properties of a PSA used in the semiconductor processing art compared to the performance properties of a medical adhesive as applied to human skin are substantially different such that the combination of the Examiner's references is not suggested or motivated.

For example, a medical adhesive as applied to human skin would presumably not be exposed to the typical semiconductor processing steps of, for example, grinding or dicing, acid etching, and irradiation curing. Therefore, Applicants submit that the combination of references cited by the Examiner are improper based on a lack of suggestion to combine them.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a).

### ***Conclusion***

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Application No.: 09/735,892

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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PATENT TRADEMARK OFFICE

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**APPENDIX**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**The claims are amended as follows:**

5. (Twice Amended) A semiconductor wafer processing method, comprising adhering a removable pressure-sensitive adhesive sheet which comprises a pressure-sensitive adhesive layer [comprising] which is made of at least a pressure-sensitive adhesive comprising a polymer in which the content of low-molecular components having a molecular weight of  $10^5$  or lower is 10% by weight or lower, and the polymer has a weight average molecular weight of 930,000 to 2,100,000, to a front or back surface of the wafer, and processing the wafer.